

CLAIMS

1. The method of effecting a temporary connection to a portion of an elongate spring contact element mounted to and extending from an electronic component, comprising:

5 providing an electronic component with an elongate spring contact element;

providing an interconnection substrate with a terminal which is a plated through hole; and

10 inserting the spring contact element through the through hole so that a portion of the spring contact element is within the through hole.

2. The method of claim 1 further comprising moving the interconnection substrate to effect a pressure connection between the terminal and the spring contact element.

15 3. The method of claim 1 further comprising fitting the spring contact element into the terminal to effect a pressure connection with the terminal.

20 4. The method of claim 3 wherein the spring contact element is shaped so that at least a first portion of the spring contact element is in close contact with the terminal and at least a second portion of the spring contact element is in close contact with the terminal.

5. The method of claim 3 wherein the spring contact element meets the terminal with an interference fit.

25 6. The method of claim 1, further comprising:

providing the electronic component with a plurality of elongate spring contact elements;

providing the interconnection substrate with a plurality of terminals which are plated through holes; and

inserting selected ones of the spring contact elements through corresponding selected ones of the through holes so that for each of the selected ones of the spring contact elements a portion of the spring contact element is within the through hole.

5 7. The method of claim 6 further comprising moving the interconnection substrate to effect a pressure connection between the selected ones of the terminals and the selected ones of the spring contact element.

8. The method, according to claim 1, wherein:

10 selected ones of the terminals are elongate finger-like terminals extending in a cantilever-like manner into double-tapered through holes; and

further comprising:

15 inserting ends of selected ones of the spring contact elements through selected ones of the through holes so that end portions of the spring contact elements are within the through holes; and

20 moving the interconnection substrate horizontally to effect a pressure connection between the terminals and the end portions of the spring contact elements.

9. An interconnection substrate for receiving an elongate spring contact element, the interconnection substrate comprising:

25 an interconnection substrate with a terminal which is a plated through hole, the hole designed to receive a corresponding elongate spring contact element and form an electrical connection therewith.

10. The interconnection substrate of claim 9 further comprising an electronic component electrically connected to the interconnection substrate, the electronic component in turn comprising an elongate spring contact element extending away from the electronic component and mating with the terminal of the interconnection substrate to form an electrical connection.

11. The interconnection substrate of claim 9 further comprising a plurality of terminals formed therein, selected ones of which are plated through holes designed to receive corresponding elongate spring contact elements.

5       12. The interconnection substrate of claim 11 further comprising an electronic component electrically connected to the interconnection substrate, the electronic component in turn comprising a plurality of elongate spring contact elements, selected ones of which extend away from the electronic component and mate with corresponding selected ones of the terminals of the 10 interconnection substrate.

15       13. The method of effecting temporary connections to free ends of at least a portion of a plurality of elongate spring contact elements mounted to and extending from an electronic component such as a semiconductor device by:

20       urging the electronic component against an interconnection substrate so that the free ends of at least a portion of the spring contact elements vertically contact selected ones of a corresponding plurality of terminals on the interconnection substrate.

14. The method, according to claim 13, further comprising:  
25       providing a rigid planar member between the electronic component and the interconnection substrate;

providing a plurality of guide holes in the rigid planar member; and

further comprising:

inserting the free ends of at least a portion of the spring contact elements extending through selected ones of the guide holes.

30       15. The method, according to claim 13, further comprising:

disposing selected ones of the terminals at ends of resilient contact structures extending from the interconnection substrate.

16. The method, according to claim 13, wherein:  
5 selected ones of the terminals are plated through holes;

and

end portions of selected ones of the elongate contact structures plug into selected ones of the plated through holes.

17. The method, according to claim 13, wherein:  
10 selected ones of the terminals are concave.